PACIFIC BRYOPHYTES: *PSILOCLADA* IN SOUTHERN MELANESIA

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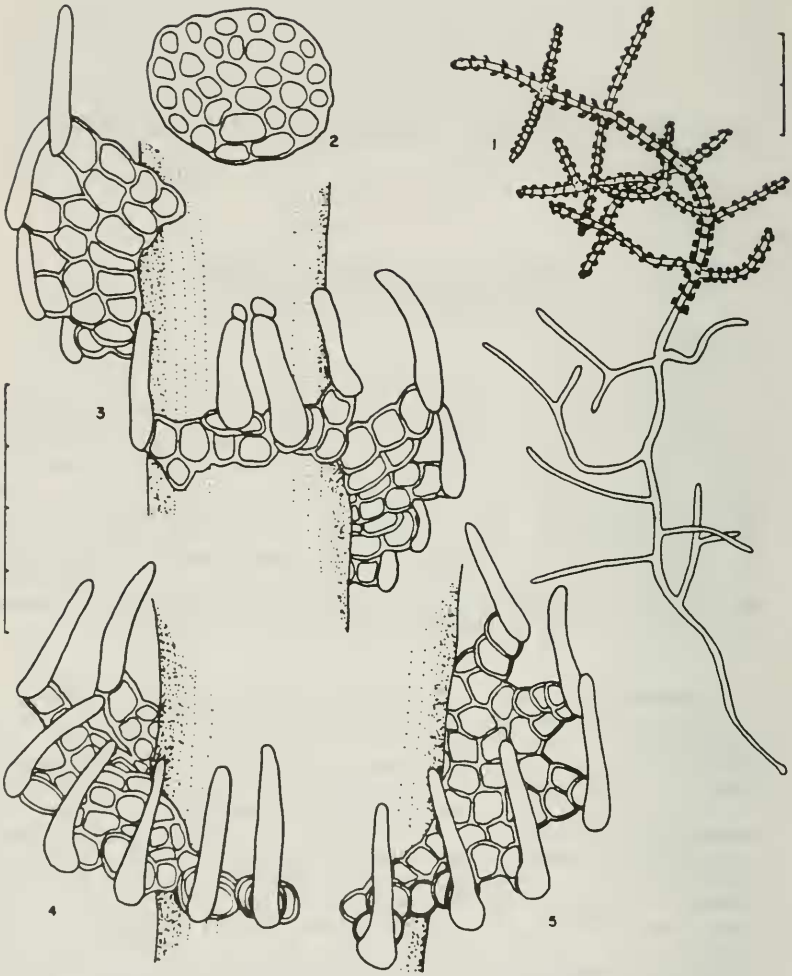
The distinctive facies of *Psiloclada* is not easily overlooked even when a plant occurs in a mixed collection. It rarely occurs in pure stands but instead grows in mixtures among other hepatics or mosses in very moist and shaded places near or within the cloud forest. The collections from Vanuatu are from such mixtures. I have not seen *Psiloclada* grow "often (on) damp rock faces" as "long, sparingly branched, filiform-setaceous, rather rigid axes..." as described by Schuster (1980), but such niches should be searched for it. Because it grows in diverse admixtures and is small, additional specimens are usually discovered when the collections are examined under the dissecting microscope during the sorting process.

Although Stephani (1898-1924) included three species in *Psiloclada*, Fulford and Taylor (1959) demonstrated that only *P. clandestina*, the type species, should be retained in the genus. This opinion prevailed with little recognition of the variation in the genus until Schuster (1980) recognized a single species comprised of three subspecies based upon morphologic variants correlated with geographic distribution. In general, *P. clandestina* subspecies *clandestina* is found in the temperate regions of New Zealand and Tasmania and has predominately transverse to slightly succubous, symmetrical leaves with the subulate terminal cell (seta) on each segment approximately 100 μm long. South African *P. clandestina* ssp. *spinosa* is a smaller plant having obliquely succubous, clearly asymmetrical leaves with the subulate terminal cells about 60 um long from a longer multicellular segment. Collections from Mt. Kaindi in Papua New Guinea are also smaller than those from austral, temperate latitudes, but the leaves are nearly symmetrical with the subulate terminal cell up to about 60 μm long from a short, few celled segment. These features characterize Schuster's *P. clandestina* ssp. *melanesica* also reported from Fiji. Judging from Schiffner's (1893) description and illustrations of *P. unguligera* from Amboina, Schuster's estimate that it may be identical to *P. clandestina*. ssp. *melanesica* seems correct. Herzog (1953) reported *P. clandestina* from Montagne des Sources in New Caledonia without descriptive comments. Del Rosario's (1977) description of Philippine specimens suggests subsp. *melanesica*.



Psiloclada unguligera Schiffn. 1. Habit sketch, scale = 1 mm. 2. Stem cross-section, scale = 100 µm. 3. Portion of leafy stem, ventral view, scale = 100 µm. 4. Leaf, dorsal view, scale = 100 µm. 5. Leaf, dorsal view, scale = 100 µm. Figures 1-4 drawn from Miller 15769 collected in Vanuatu; figure 5 drawn from Miller 13031 collected in New Caledonia.

During field work in southern Melanesia I collected Psiloclada in both New Caledonia and Vanuatu (formerly New Hebrides). The terminal cells of the leaf and underleaf segments are shorter (45-60 μm) than those described for subspecies clandestina (85-110 μm) and are longer than the supporting segment. These southern Melanesian plants are consistent with subsp. melanesica Schuster and seem to be consistently and amply distinct from the temperate Psiloclada clandestina to represent a distinct species.

Psiloclada unguligera Schiffner. 1893. Nova Acta Acad. Caes. Leop.- Carol. 60: 255. pl. XVI, fig. 1-10.

Psiloclada clandestina Mitten. subsp. melanesica Schuster. 1980. Jour. Hattori Bot. Lab. 48: 411. fig. 16 (1-10).

VANUATU: Tanna Isl., Mont Toukosmeru summit, 3300-3600 feet, 17 July 1984. H. A. Miller 15642, 15769 (Figure 1-4). New to Vanuatu.

NEW CALEDONIA: Mont Mou summit, 3700-3900 feet, 24 May 1984. H. A. Miller 13031 (Figure 5). Plateau de Dogny, in forest, 3100 feet, 9 June 1984. H. A. Miller 14169.

FIJI: Vanua Levu, Mt. Ndelaikoro (Schuster, 1963); Mt. Tomanivi (Schuster, 1980); between Mt. Nangaranambulata and Mt. Namama (Campbell, 1971).

Additional distribution: Records for P. clandestina from New Guinea, Amboina, Borneo, Sumatra and the Philippines (Miller et al., 1983) probably belong to P. unguligera.

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